

**Method of Cleaning an Inter-Level Dielectric  
Interconnect**

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ABSTRACT

A method for cleaning a semiconductor interconnect structure formed in an organic ILD using an anisotropic organic dielectric etch in combination with a sputter  
10 clean process. Organic material displaced from the sidewalls to the bottom of the structure by the sputter clean is removed by the ion enhanced organic etch. Interconnect resistance shift is reduced and reliability of the interconnect structure is improved by removing  
15 contaminates at the interface of the via/contact, and by increasing adhesion of the liner or plug to the underlying conductive layer.